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Wood Pellet Production Update

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Wood Products

Biofuels

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Report Highlights:

The development of the biofuels sector remains a low priority for the Russian government whose agricultural programs are largely focused on "import substitution" and export support programs. Russia's wood pellets sector is the primary bio-based energy product and remains a significant global player. Post estimates production of wood pellets in Russia in CY 2017 at 1.75 MMT, an increase of 32 percent over production in CY 2016. Such a significant increase is attributed to continued strong demand from the European Union and new markets in Asia, such as Japan and China. In addition, government initiatives to subsidize exports of wood pellets and the launch of new production operations in Russia raised production. The Russian Customs Service reports exports of wood pellets from Russia in CY2017 at 1.44 MMT, or more than 34 percent higher than in CY2016. Post forecasts exports of wood pellets to increase but at a moderate pace of four percent to reach 1.5 MMT in CY2018.

General Information:

Update on Biofuels Industry

Different sources estimate that renewable energies, including biofuels, represent 1.2 percent of Russia's total energy production, with biomass production accounting for only 0.5 percent of total production. While there are no official statistics that measure total energy production attributable to biofuels, it is estimated that biofuels account for five percent of Russia's heating energy and one percent of its electrical power. At present, Russia utilizes only 30 percent of its economically viable hydro-energy resources.

The bioethanol and biodiesel sectors will remain niche industries in Russia, at least in the short-term. The production of biofuels still remains small and has almost no impact on Russia's overall domestic grain and oilseed prices. High excise taxes for ethanol in Russia, coupled with high production costs and increasing demand for grain for other uses, are all major obstacles for the development of the bioethanol industry not to mention the thriving oil and gas sector. The Russian Ministry of Energy reports that there are no government-backed biofuel projects in operation at this time. The majority of biofuel ventures in Russia are supported by regional governments or financed by foreign investors. In most cases, these projects are in the pilot phase and produce just enough biofuel to generate heat/electricity for their own facility, or for the production of organic fertilizer from agricultural waste. Currently, there is no industrial production of either bioethanol or biodiesel in Russia, except for several regional facilities that are supported by either regional administration or private companies.

However, since 2017 the State Duma has supported a document that is important for the development of regulatory norms in biofuels sector. On June 7, 2018, the State Duma of the Russian Federation approved amendments to the Federal Law "On State Regulation of Production and Turnover of Ethyl Spirt, Alcohol Products Containing Spirit and Limitations on Consumption of Alcohol Products," developed by the Federal Service for Regulation of the Alcohol Market. The document supported the idea of defining bioethanol and motor bioethanol as separate products. The document includes a more specific definition of bioethanol identifying that motor oils that contain no more than 10 percent of bioethanol are not subject to regulation as products containing spirits. Also, it exempts the production of bioethanol as an additive to motor oil from excise taxes. The Russian bioethanol community has been lobbying for many years for this exemption. However, so far the amendments have not been approved by the government. According to the Russian Biofuels Association, if enacted, the potential for expansion of bioethanol production in the near term will increase up to 2 million MT. This expansion would be primarily for use as an additive. The potential for expansion for the use of bioethanol production for blending with 95 percent fossil gasoline (B5) could increase up to 5 percent. However, without strong support at the federal level, these targets are unlikely to be achieved.

The Government of Russia Order No.892-p of May 10, 2017 approved "The Development Strategy of the Russian Export Center until 2019" (http://government.ru/docs/27640/). The Russian Export Center (REC) will act as the government agent for distribution of subsidies and state guarantees and will

directly support exporters and investors abroad. The total budget for the programs under the "Development Strategy of the REC until 2019" for 2017-2019 is estimated at 33.6 billion rubles. Specifically, REC will compensate companies for their expenditures for certification, logistics and registration in foreign markets. From the third quarter of 2017, the program for partial compensation of costs for transportation of products with planned allocation of 11.8 billion rubles, is expected to be fully operational. (Official Rub to Dollar Exchange rate as of June 14, 2018 is 63.11 Rub per USD). According to the regulation, REC is authorized to compensate up to 80 percent to wood pellet exporters of the transportation cost of wood pellets to the final foreign destination. Experts believe that this measure will stimulate further expansion of wood pellet production which is already export oriented. However, sources indicate that in CY2017 none of the Russian exporters has received this compensation for transportation. Although most exporters stated that the compensation covered expenses for participation in exhibitions and certification procedures.

Disclaimer: This report presents the situation and outlook for biofuels in Russia. This report presents the views of the authors and does not reflect the official views of the U.S. Department of Agriculture (USDA). The data are not official USDA data.

Wood Pellets

While Russia's wood pellet production is relatively young, it accounts for a six percent share of world wood pellet exports. Russia ranks 8th in the world for total wood pellet production, with three percent of total world wood pellet production. According to FAOSTAT, production of wood pellets in Russia is forecast to increase significantly by 5 MMT by 2020, and by 8 MMT by 2025. However, Russian Ministry of Energy and Industry analysts forecast that production will increase at a slower pace, between 10 and 12 percent annually. Stabilization of world prices for wood pellets in CY 2018, after a downward trend in 2015 due to a drop in oil prices, will also be a driver for stimulating exports from the Russian producers.

The growing interest from the European Union for biofuels, particularly wood pellets, will continue to be a major incentive for Russia to increase production of wood pellets. Also, recently Asian countries, such as Japan and South Korea, have become more interested in Russian wood pellets and as this interest grows it will also contribute to an expansion of Russian wood pellet production. Currently, Russia is the third largest exporter of wood pellets to the EU, after the United States and Canada.

Production

According to Rosstat (Russian Federal Statistical Service), Russia produced 1.34 MMT of wood pellets in CY2017, more than 30 percent increase from CY 2016. However, sources report that production statistics for wood pellets are incomplete. The statistics primarily capture large-capacity factories, and mid-sized and smaller facilities which operate as part of larger wood processing plants, do not report their production. Inaccurate wood pellet production statistics also could contribute to the high difference in production in CY2013 and CY 2014. As a result, Post believes the actual wood pellet production is underreported by Rosstat.

Post estimates production of wood pellets in Russia in CY 2017 at 1.75 MMT, an increase of 32 percent over production in CY 2016. Such a significant increase in production is attributed to launching new production facilities and continued strong demand from the European Union and new markets in Asia, such as Japan and China. In addition, the government initiative to provide compensation to wood pellet exporters up to 80 percent to cover transportation and certification expenses, as well as participation in the exhibitions and fairs. However, the lack of a domestic standard for pellets, poor transport infrastructure, a lack of warehouses, and the product's seasonality are challenges to further growth of the wood pellet sector in Russia. Industry sources believe that Russia will require large investments in order to upgrade its facilities and expand its production capacity. Domestic demand can also absorb some of the increased, near-term production; however, experts do not forecast further development of local market in the near-term. As a result, Post forecasts domestic consumption of wood pellets to be flat.

Analysts estimate that currently 10 large wood pellet producers manufacture more than 60 percent of total Russian wood pellet production about 60 percent of total production of wood pellets in Russia. In 2017, the North Western Federal District and Siberian Federal District accounted for almost 70 percent of total production of wood pellets in Russia. The provinces located in these federal districts are situated in proximity to the borders of EU and Asian markets.

The top-10 producers of wood pellets in Russia in 2017 include:

- 1. "SP Arkaim Ltd." in Khabarovsk province. The facility was built in 2009 to utilize wood waste from sawn timber and laminated panel production facilities in the area. Total annual capacity is reported at 130,000 MT. The company is export-oriented to China and South Korea.
- 2. JSC "Lesozavod-25 (part of the State Corporation "Titan") located in the north-western part of Russia. The plant sources low cost raw material from timber processing facilities of the Titan group, translocating pellets through its own port. The second facility of "Lesozavod-25" has been in operation since 2013. The facility currently produces 70,000 MT of wood pellets annually. Sources report the projected annual capacity is 100,000 MT. The production share of the facility in overall Russian production of wood pellets is estimated at 9.5 percent. Annual log inputs for both production facilities are estimated at more than 1 million cubic meters.
- 3. "DOK Yenisey" is located in Krasnoyarsk province. The facility increased its production from 6.3 thousand MT in 2010 to 80,000 MT in 2016. Most of its production of wood pellets is destined to Denmark. Its total production share in overall production of wood pellets in Russia is reported at 8.5 percent.
- 4. JSC "LDK-3" in Arkhangelsk province has been in operation since 2014. In 2016, as a result if investment of 4.8 billion rubles, the facility increased its annual production and almost reached its projected capacity of 100,000 MT. The company owns its pier, so most production is exported by sea to EU countries.
- 5. "SvedWood Tikhvin" Ltd. is part of the "Svedwood" industrial group founded by IKEA in

1991. The facility has been in operation since 2002, an annual production estimated at 55,000 MT

It accounts for 5 percent of the total Russian wood pellet production.

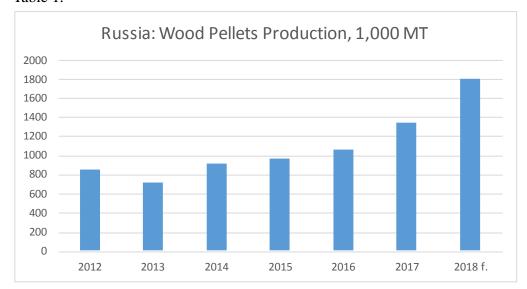
- 6. "Vyborg Forestry Industrial Corporation Ltd." (Vyborg Limited) was the leading production facility until 2016. Its total annual production capacity was reported at 400,000 MT. However, sources report that due to several legal claims regarding tax issues and change in the management of the facility resulted in to significant slowing down and eventually halting production of wood pellets by mid CY 2017. Reportedly, its production in 2016 shrank to 40,000 MT. Market experts believe that the facility will go bankrupt and/or diversify into other production. The potential shut down of "Vyborg Forestry Industrial Corporation Ltd. "did not affect exports since there are a number of new production facilities that started operation in 2016 in the North Western Federal District, including Arkhangelsk, Kostroma and Novgorod provinces. Their production volumes were able to offset slowing down of the leading facility. Its current production share is estimated at 4 percent in the total wood pellet production in Russia.
- 7. The forestry company "NovoYeniseyevskiy" in Krasnoyarsk province has been in operation since 2010. Its annual capacity is 50,000 MT, however, in 2015 the company built a new production line for pressed fuel to utilize waste. The projected annual capacity is estimated at 80,000 MT.
- 8. "Mir Granul Ltd" is located in Leningrad province and started operations in 2004. The annual production capacity is 45,000 MT.
- 9. "North Western Holding Ltd." is one of the largest wood pellet producers in Leningrad province. Its annual production is 50,000 MT which is mostly shipped to EU and Asian markets.
- 10. "RusForest Magistralniy Ltd." is a part of the leading Swedish forestry production and operation company. Its annual wood pellet production capacity is estimated at 30,000 MT.

According to experts from the Lesonline.ru portal, there are about 20 wood pellet facilities in Russia with production capacity from 30,000 to 70,000 MT that have had stable operations since 2010. Reportedly, in CY2017 these larger facilities reached operation capacity between 90 to 95 percent. However, analysts project a trend away from large facilities with an increasing number of facilities with smaller capacity, up to 20,000 MT. However, the share in overall pellet production from the smaller facilities accounts for only 14 percent. Given the current economic situation, the number of smaller-capacity facilities is forecast to increase because they have more mobility in sourcing raw materials and can easily market their production locally. In addition, recent government initiatives to support exporters and call for improving ecology and environments are likely to stimulate producers of forestry processing industries to construction wood pellet production facilities.

There are a number of projects for building wood pellet facilities, mostly with foreign investments, that are under way or have recently started operations. For example, Japanese company Shinnen

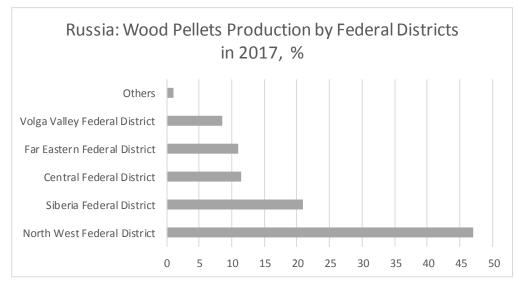
Corporation Ltd. is planning to invest into wood pellet production facility Republic of Buryatiya in 2018, with annual potential production capacity of 300,000 MT of wood pellets. The pellets will be exported to Japan. Since 2017, another pellet production facility with annual capacity of 70,000 MT launched its operation in Khabarovsk province, BM Group, Italian industrial group of companies, invested 9.5 billion rubles into the project. Verkhnepashinsky Forestry Complex-JSC "Sibles Project" completed renovation of its forestry facility in Krasnoyarsk province. Reportedly, production of wood pellets is estimated at 170,000 MT in 2017. Most of the products will be destined to the Asian markets.

Table 1.



Source: Russian Statistical Service and FAS estimates for 2018

Table 2.



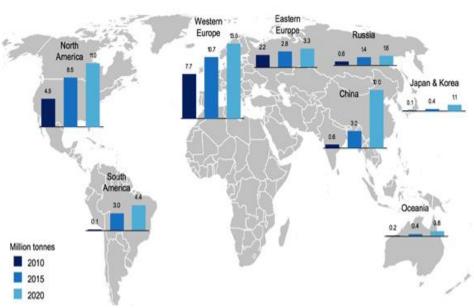
Source: Russian Statistical Service

Certification

According to the National Bioenergy Association, Russian producers who export comply with the European Union's relatively more stringent requirements for wood pellet imports. Reportedly, seven large energy industrial groups of companies in Europe developed the rules and import standards, the so-called Sustainable Biomass Program. These corporations may also influence prices in the wood pellet market. Starting in 2016, an increasing number of Russian wood pellet facilities are being certified to the EU standard. Experts from "Bioenergy International" Magazine report that starting 2017, 24 wood pellet producers were certified with EN- Plus, issued by AEBIOM - European Biomass Association, that are in compliance with the EU standards. Special media reports site more middle-sized and smaller pellet facilities were being certified or have plans to invest in EN-Plus and ENB certification programs, including in Leningrad, Tver and Novgorod provinces. Also, the Forest Stewardship Council (FCS) reports that recently there has been an increasing demand for certification from the Russian wood pellet producers. Currently, 84 wood pellet producers in Russia own FCS certificates. Reportedly, in 2018, the government is planning to compensate 50 million rubles to pellet producers to cover certification expenses. Large companies that are currently certified by FSC certification include: Vyborgsk Forestry Corporation, DOK Yenisey, Novoyeniseyesk Forestry company, RusForest and others. Experts believe that if smaller facilities are able to receive compensation for participating in the program they will be able to compete for export markets. Though it will be harder for them to implement this task since most of the smaller facilities do not have well-developed distribution and sales departments so they have to act through middle men, which drives up the costs.

Table 3.

GLOBAL PELLET PRODUCTION - 2010, 2015 AND 2020 OUTLOOK



Source: Biofuels portal wood-pellets.com, General Director "Portal Engineering Ltd."

Consumption

Post forecasts domestic consumption in CY 2018 to remain flat at 320,000 MT. Experts believe that the main constraint for an increase in domestic consumption is the difference in prices that vary from one province to another, due to varying costs of raw materials across the vast Russian territory. This distance also results in significant variances in consumer price due to transport costs. In the mid-term, wood pellets in Russia will primarily continue to be used in municipal heating and individual heating systems.

In the mid-term, domestic demand for wood pellets is forecast to remain flat. In the local market, wood pellets are in demand by private heating stations and municipal housing, primarily in heavily forested areas where traditional sources of energy are not accessible. Production of wood pellets is, in most cases, cheaper than gas. According to the National Bioenergy Union, a number of regions, including Moscow oblast, Karelia and Nizhniy Novgorod, Republic of Mari El, and Arkhangelsk oblast, have started implementing initiatives to transfer local heating stations from coal or residual oil to wood pellets. However, experts believe that in the mid-term there will not be significant breakthrough in switching to wood pellets due to lack of additional investments needed for transfer from boilers adapted for gas and other residual oils to wood pellet boilers. Also, recent government regulation to provide compensation of transportation of wood pellets to foreign markets would stimulate more local producers to manufacture for export.

Trade

The Russian Customs Service reports exports of wood pellets from Russia in CY2017, at 1.44 MMT, or more than 34 percent higher than in CY2016. The leading export destination for these products was Denmark at 615,117 MT, followed by South Korea at 127,519 MT, and Belgium at 123,435 MT and Sweden at 120,142 MT. These four destinations account for almost 70 percent of total Russian exports of wood pellets. Europe will continue to be the largest importer of Russian wood pellets.

Denmark and Sweden will continue to be the major destinations of Russian pellets. Reportedly, Sweden and Denmark have a high target for renewable energy use in 2020, 49 and 30 percent respectively. The "International BioEnergy" magazine estimates that 17 Russian wood pellet facilities account for 70 percent of total export share of wood pellets to the foreign markets. The same source also estimates that 10 large foreign companies import nearly 50 percent share of total Russian wood pellet production in January-June 2017. These large foreign buyers include CM Biomass Partners A/S from Denmark, "Kaymar Ltd." from South Korea, and Engie Energy Management from Belgium. Post forecasts exports of wood pellets to increase but in a moderate pace or four percent and reach 1.5 MMT in CY2018.

Currently there are six major export oriented provinces in Russia that account for almost 88 percent of Russia's total wood pellet exports. More than 47 percent of total Russian wood pellet exports originate from Leningrad province, followed by Krasnoyarsk (12 percent) and Arkhangelsk (10 percent) regions.

Irkutsk province has recently expanded production and export of wood pellets as a result of stronger demand from South Korea and potentially from Japan.

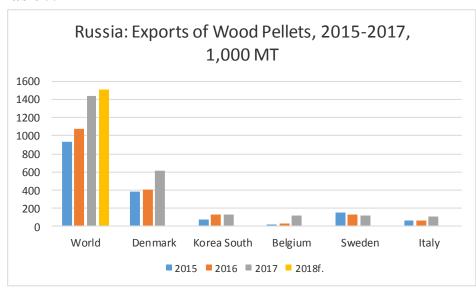
Table 4: PS& D for Fuel Pellets

Wood Pellets (1,000 MT)									
Calendar Year	2010	2011	2012	2013	2014	2015	2016	2017	2018 f
Beginning Stocks	0	0	0	0	0	30	80	30	20
Production	620	718	935	1010	1185	1260	1330	1750	1810
Imports	0	0	0	0	0	0	0	0	0
Exports	430	520	730	750	895	930	1070	1440	1500
Consumption	190	198	205	260	260	280	310	320	320
Ending Stocks	0	0	0	0	30	80	30	20	10
Production Capacity									
Number of Plants	145	120	120	103	98	95	110	115	118
Capacity Use (%)	75	75	78	80	80	85	85	90	90

F = forecast

Source: Rosstat (Russian Federal Statistical Service), Russian Customs Committee, Federal Forestry Agency, trade contacts, Forestry Forum "Green press", National Bioenergy Union.

Table 5.



Source: Federal Customs Service Statistics, FAS forecast